

## CLAIMS

[1] A manufacturing method of a hermetic plastic zipper wherein the plastic zipper comprises a pair of engaging portions formed on the surfaces of plastic films and has a readily peelable plastic layer prolonging in a lengthwise direction of the plastic zipper at the engaging portions or in the neighborhood thereof, the method is characterized in that while the engaging portions are brought into a engaged state, the portion of the plastic zipper where the readily peelable plastic layer exists is inserted between an ultrasonic horn and an anvil, and the readily peelable layer is welded by using ultrasonic wave under a condition wherein the distance  $L$  between the ultrasonic horn and the anvil is uniformly held at a distance of  $H \geq L \geq 0.85H$  wherein  $H$  stands for a maximum thickness of the plastic zipper under the engaged state, and the plastic zipper sandwiched between the ultrasonic horn and the anvil is moved in a lengthwise direction thereof, whereby the readily peelable plastic layer is welded continuously in a lengthwise direction of the zipper..

[2] The manufacturing method of the hermetic plastic zipper according to Claim 1, characterized in that the adhesion intensity of the adhered portion by the readily peelable layer is controlled by changing the velocity of the plastic zipper in a lengthwise direction of the zipper.

[3] The manufacturing method of the hermetic plastic zipper according to any one of Claims 1 and 2, characterized in that at least either the width of an ultrasonic horn or the width of an anvil is smaller than the open width of the female hook of the plastic zipper under the engaging state.

[4] A hermetic plastic zipper wherein the plastic zipper is formed by a pair of male and female hooks on the surfaces of the plastic films, the male hook has a projection prolonging in a lengthwise direction formed at the tip portion thereof, the projection has flexibility at at least the tip portion thereof, a

readily peelable plastic layer has been previously formed on the projection or on the surfaces of the bottom portion of the female hook facing to the projection, and the readily peelable plastic layer is melted to weld the projection and the bottom portion.

[5] A hermetic plastic zipper wherein the plastic zipper is formed by a pair of male and female hooks on the surfaces of the plastic films, the female hook has a projection prolonging in a lengthwise direction formed at the bottom portion thereof, the projection has flexibility at at least the tip portion thereof, a readily peelable plastic layer has been previously formed on the projection or on the surfaces of the bottom portion of the female hook facing to the projection, and the readily peelable plastic layer is melted to weld the projection and the bottom portion.

[6] A hermetic plastic zipper according to claim 4 or 5, characterized in that the pair of male and female hooks are engaged with each other, and under a condition wherein the maximum thickness is indicated, the flexible projection under bent condition is in contact with the surface of other hook.

[7] A hermetic plastic zipper wherein plastic films have engaging portions formed on surfaces thereof, at least one of flange portions has at least one projections prolonging in a lengthwise direction of the plastic zipper formed separately from the engaging portions at a position inside the mouth end of the flange portion, the projections have flexibility at at least the tip portion thereof, a readily peelable plastic layer has been previously formed on the projections or on the surfaces of the other flange portions facing to the projections, and the readily peelable plastic layer is melted to weld the projection and the bottom portion.

[8] A hermetic plastic zipper according to claim 7, characterized in that the flexible projection in a bending state is in contact with the surface of the other flange portion facing to the projection, under the condition wherein a pair of engaging portions of the plastic zipper are engaging with each other and

wherein the maximum thickness is indicated.

[9] A hermetic plastic zipper according to claim 8, characterized in that the flexible projection in a bending state, the flexible tip portion of the projection is bent towards inside of contents side of the zipper under the condition wherein the projections are in contact with each other and wherein the maximum thickness is indicated.

[10] A hermetic plastic zipper according to any one of claims 4 to 9, wherein the plastic zipper has a pair of engaging portions formed on surfaces of plastic films, a pair of projections are formed at the mouth side of the flange, and a readily peelable plastic layer has been previously formed on at least one of the projections characterized in that the readily peelable plastic layer is melted to weld the pair of projections with each other.

[11] A hermetic plastic zipper wherein the plastic zipper has engaging portions comprising a pair of male and female hooks formed on surfaces of plastic films, a readily peelable plastic layer has been previously formed at the top of female hook or the surface of the flange portion of the male hook facing to the female hook, the books forming the engaging portions characterized in that the readily peelable plastic layer is melted to weld the pair of projections with each other.

[12] A hermetic plastic zipper according to any one of claims 4 to 11, wherein the plastic zipper is provided with a slider.

[13] A bag provided with a hermetic plastic zipper according to any one of claims 4 to 12.